

## Refine Search

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Terms	Documents
L2 AND (multilayer OR multilevel OR multi-level OR multi-layer)	50

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US OCR Full-Text Database  
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JPO Abstracts Database  
Derwent World Patents Index  
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### Search History

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side by side

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result set

<u>L3</u>	L2 AND (multilayer OR multilevel OR multi-level OR multi-layer)	50	<u>L3</u>
<u>L2</u>	L1 AND (717/\$\$\$ccls. OR 700/\$\$\$ccls.)	1389	<u>L2</u>
<u>L1</u>	((object ADJ oriented) OR (object-oriented)) AND control	8448	<u>L1</u>

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☐ 1. Document ID: US 6640145 B2

L3: Entry 1 of 50

File: USPT

Oct 28, 2003

US-PAT-NO: 6640145

DOCUMENT-IDENTIFIER: US 6640145 B2

TITLE: Media recording device with packet data interface

DATE-ISSUED: October 28, 2003

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Hoffberg; Steven	West Harrison	NY	10604	
Hoffberg-Borghesani; Linda	Acton	MA	01720	

US-CL-CURRENT: 700/83; 700/17, 700/19, 700/23, 704/200, 704/201, 704/7, 709/200, 709/201, 709/202

ABSTRACT:

An intelligent media device, comprising a packet data communications interface; a media communication interface for receiving audio and/or video data; a digital memory for persistently storing received audio and/or video data; and an intelligent server for generating a virtual interface for controlling the media communication interface and the digital memory through said packet data communications interface. The intelligent server may be adaptive. A variety of devices may be interfaced through the packet data communications interface, including telephony, imaging, videoconferencing, security, alarm, environmental control, vehicular, illumination system, domestic appliance; fluid and handling systems, as well as consumer electronic devices. A digital rights manager for enforcing a set of externally supplied restrictions associated with the received audio and/or video data may be incorporated, with a cryptographic processor for selectively cryptoprocessing audio and/or video data in dependence on said rights manager being provided to limit access to the audio and/or video data content.

23 Claims, 32 Drawing figures

Exemplary Claim Number: 1

Number of Drawing Sheets: 28

Full	Title	Citation	Front	Review	Classification	Date	Reference	Abstract	Claims	KWIC	Draw. C
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☐ 2. Document ID: US 6615166 B1

L3: Entry 2 of 50

File: USPT

Sep 2, 2003

US-PAT-NO: 6615166

DOCUMENT-IDENTIFIER: US 6615166 B1

TITLE: Prioritizing components of a network framework required for implementation of technology

DATE-ISSUED: September 2, 2003

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Guheen; Michael F.	Tiburon	CA		
Mitchell; James D.	Manhattan Beach	CA		
Barrese; James J.	San Jose	CA		

US-CL-CURRENT: 703/27; 703/26, 709/220, 709/223, 709/231, 709/316, 717/140

ABSTRACT:

A system and method are provided for prioritizing components of an existing network framework. First, a plurality of components required for implementation of a predetermined technology using an existing network framework are provided. Next, a priority listing of the components is compiled such that the relative position of the components on the priority listing corresponds to a temporal priority among the components. The existing network framework and the components are pictorially represented. Next, a first component of the existing network framework is indicia coded in order to indicate that the first component must be installed first based on the component's position on the priority listing. Thereafter, a second component and any remaining components of the existing network framework is indicia encoded in order to indicate that the second component and any remaining components must be installed after the first component based on the second component's position on the priority listing.

18 Claims, 177 Drawing figures

Exemplary Claim Number: 1

Number of Drawing Sheets: 177

Full	Title	Citation	Front	Review	Classification	Date	Reference			Claims	KWIC	Draw. De
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☐ 3. Document ID: US 6606744 B1

L3: Entry 3 of 50

File: USPT

Aug 12, 2003

US-PAT-NO: 6606744

DOCUMENT-IDENTIFIER: US 6606744 B1

TITLE: Providing collaborative installation management in a network-based supply chain environment

DATE-ISSUED: August 12, 2003

## INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Mikurak; Michael G.	Hamilton	NJ		

US-CL-CURRENT: 717/174; 705/26, 717/178

## ABSTRACT:

A system, method and article of manufacture are provided for collaborative installation management in a network-based supply chain environment. According to an embodiment of the invention, telephone calls, data and other multimedia information are routed through a network system which includes transfer of information across the internet utilizing telephony routing information and internet protocol address information. The system includes integrated Internet Protocol (IP) telephony services allowing a user of a web application to communicate in an audio fashion in-band without having to pick up another telephone. Users can click a button and go to a call center through the network using IP telephony. The system invokes an IP telephony session simultaneously with the data session, and uses an active directory lookup whenever a user uses the system. Users include service providers and manufacturers utilizing the network-based supply chain environment.

18 Claims, 130 Drawing figures

Exemplary Claim Number: 1

Number of Drawing Sheets: 130

Full	Title	Citation	Front	Review	Classification	Date	Reference			Claims	FIGS	Draw. De
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☐ 4. Document ID: US 6606588 B1

L3: Entry 4 of 50

File: USPT

Aug 12, 2003

US-PAT-NO: 6606588

DOCUMENT-IDENTIFIER: US 6606588 B1

TITLE: Design apparatus and a method for generating an implementable description of a digital system

DATE-ISSUED: August 12, 2003

## INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Schaumont; Patrick	Wijgmaal			BE
Vernalde; Serge	Heverlee			BE
Cockx; Johan	Pellenberg			BE

US-CL-CURRENT: 703/15; 716/18, 716/5, 716/7, 717/108

## ABSTRACT:

The present invention is a design apparatus compiled on a computer environment for generating from a behavioral description of a system comprising at least one digital system part, an implementable description for said system, said behavioral

description being represented on said computer environment as a first set of objects with a first set of relations therebetween, said implementable description being represented on said computer environment as a second set of objects with a second set of relations therebetween, said first and second set of objects being part of a design environment.

45 Claims, 29 Drawing figures

Exemplary Claim Number: 1

Number of Drawing Sheets: 25

Full	Title	Citation	Front	Review	Classification	Date	Reference			Claims	KWIC	Draw. De
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☐ 5. Document ID: US 6604237 B1

L3: Entry 5 of 50

File: USPT

Aug 5, 2003

US-PAT-NO: 6604237

DOCUMENT-IDENTIFIER: US 6604237 B1

TITLE: Apparatus for journaling during software deployment and method therefor

DATE-ISSUED: August 5, 2003

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Giammaria; Alberto	Austin	TX		

US-CL-CURRENT: 717/174; 707/203, 715/511, 717/176

ABSTRACT:

A method and apparatus for automatically generating a log, or journal, during the deployment of software packages to client systems on a network are implemented. The logs may be used to verify the deployment and facilitate selectively deployment of components not successfully deployed. The mechanism rests on an object-oriented architecture that provides a multiplicity of actions that effects software management operations on the target system. The actions are implemented as methods within the object oriented architecture. In this way, each software element, for example, registry entries, files, directories, etc., which may be implicated in a software deployment are treated on an equal footing. The mechanism automatically generates a log file based on the actions contained within the particular deployment package.

17 Claims, 4 Drawing figures

Exemplary Claim Number: 1

Number of Drawing Sheets: 4

Full	Title	Citation	Front	Review	Classification	Date	Reference			Claims	KWIC	Draw. De
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☐ 6. Document ID: US 6601233 B1

US-PAT-NO: 6601233

DOCUMENT-IDENTIFIER: US 6601233 B1

TITLE: Business components framework

DATE-ISSUED: July 29, 2003

## INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Underwood; Roy Aaron	Long Grove	IL		

US-CL-CURRENT: 717/102; 717/100, 717/101, 717/103, 717/104, 717/106, 717/107

## ABSTRACT:

A method of generating software based on business components. A plurality of logical business components in a business are first defined with each business component having a plurality of capabilities. Next, functional interrelationships are identified between the logical business components. Code modules are then generated to carry out the capabilities of the logical business components and the functional interrelationships between the logical business components, wherein the code modules represent a transformation of the logical business components to their physical implementation, while ensuring the capabilities that are carried out by each code module are essentially unique to the logical business component associated with the code module. Next, the functional aspects of the code modules and the functional relationships of the code modules are tested. The code modules are then subsequently deployed in an e-commerce environment.

18 Claims, 177 Drawing figures

Exemplary Claim Number: 1

Number of Drawing Sheets: 111

Full	Title	Citation	Front	Review	Classification	Date	Reference	Abstract	Claims	Keywords	Drawing
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☐ 7. Document ID: US 6588011 B1

L3: Entry 7 of 50

File: USPT

Jul 1, 2003

US-PAT-NO: 6588011

DOCUMENT-IDENTIFIER: US 6588011 B1

TITLE: Apparatus for automatically generating restore process during software deployment and method therefor

DATE-ISSUED: July 1, 2003

## INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Giammaria; Alberto	Austin	TX		

US-CL-CURRENT: 717/174; 715/511, 717/170

ABSTRACT:

A mechanism for automatically generating the software program for returning a client system to its initial state following a software installation is implemented. The mechanism rests on an object-oriented architecture that provides a multiplicity of actions that effect software management operations on the target system. The actions are implemented as methods within the object-oriented architecture. In this way, each software element, for example registry entries files, directories, etc., which may be implicated in a software deployment, are treated on an equal footing. The mechanism builds a program which, when executed, restores the target client to its unmodified state.

21 Claims, 3 Drawing figures  
Exemplary Claim Number: 1  
Number of Drawing Sheets: 3

Full	Title	Citation	Front	Review	Classification	Date	Reference			Claims	KWIC	Draw. De
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☐ 8. Document ID: US 6581052 B1

L3: Entry 8 of 50

File: USPT

Jun 17, 2003

US-PAT-NO: 6581052

DOCUMENT-IDENTIFIER: US 6581052 B1

TITLE: Test generator for database management systems

DATE-ISSUED: June 17, 2003

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Slutz; Donald R.	Discovery Bay	CA		

US-CL-CURRENT: 707/2; 717/124

ABSTRACT:

A test generator produces a set of database query-language statements comprised of randomly chosen elements for testing one or more database management systems on arbitrary databases. The statements are syntactically correct according to the query language, and are semantically correct according to the query language and according to the schema of the target database. A configuration file further specifies parameters of the test statements, in terms of maximum elements, weights of different elements, etc. The generated statements include predicates in which tables in a from clause are tightly joined. In addition, a dictionary of words randomly selected from text columns in a test database is maintained and used to create predicates having words that actually appear in the row data.

18 Claims, 20 Drawing figures  
Exemplary Claim Number: 1  
Number of Drawing Sheets: 19

Full	Title	Citation	Front	Review	Classification	Date	Reference	Abstract	Claims	KWIC	Draw. De
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☐ 9. Document ID: US 6560498 B1

L3: Entry 9 of 50

File: USPT

May 6, 2003

US-PAT-NO: 6560498

DOCUMENT-IDENTIFIER: US 6560498 B1

TITLE: Formation method and device for curved plates

DATE-ISSUED: May 6, 2003

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Shin; Jong Gye	Seoul	137-044		KR
Kim; Won Don	Pusan	612-022		KR

US-CL-CURRENT: 700/97; 114/65R, 700/104, 700/150, 700/48, 702/42, 703/1, 703/7

ABSTRACT:

This invention includes the generation of forming information and its manipulation scheme as a method to form curved plates in ship hull-pieces. This invention consists of three components as follows: one is to construct and utilize a database which includes data about flat plates, objective curved plates, plates which are being formed, and their forming information, another is to infer new forming information with an artificial neural network system, and the third is to obtain forming information through calculating in-plane and bending strains. In the third, initial forming information is obtained by calculating strains from relationship between flat plates and objective curved plates. And new forming information is yielded through calculating the strains from relationship between partially formed curved plates and objective curved plates. Final objective plate are reached by repeatedly performing the measurement of the difference between plates in the proceeding steps and final objective plates and the calculation of the new strains in each process. Therefore, through this invention standardization and automation can be realized in the formation of curved plates.

8 Claims, 4 Drawing figures

Exemplary Claim Number: 1

Number of Drawing Sheets: 3

Full	Title	Citation	Front	Review	Classification	Date	Reference	Abstract	Claims	KWIC	Draw. De
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☐ 10. Document ID: US 6536037 B1

L3: Entry 10 of 50

File: USPT

Mar 18, 2003

US-PAT-NO: 6536037

DOCUMENT-IDENTIFIER: US 6536037 B1



TITLE: Identification of redundancies and omissions among components of a web based architecture

DATE-ISSUED: March 18, 2003

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Guheen; Michael F	Tiburon	CA		
Mitchell; James D.	Manhattan Beach	CA		
Barrese; James J.	San Jose	CA		

US-CL-CURRENT: 717/151; 703/2, 709/231

ABSTRACT:

A system, method and article of manufacture are provided for conveying redundancies and omissions among components of a network framework such as a web architecture framework. First, an area of an existing network framework is determined in which redundancies and omissions exist. Next, a pictorial representation of the existing network framework is presented along with a plurality of its components. The foregoing redundancies and the omissions are then highlighted by indicia coding the components of the existing network that reside in the area. As such, a diagnostic analysis of redundant efforts and gaps in a current implementation of the existing network framework is effectively conveyed.

19 Claims, 177 Drawing figures  
Exemplary Claim Number: 1  
Number of Drawing Sheets: 177

Full	Title	Citation	Front	Review	Classification	Date	Reference			Claims	KWIC	Drawing
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☐ 11. Document ID: US 6535795 B1

L3: Entry 11 of 50

File: USPT

Mar 18, 2003

US-PAT-NO: 6535795

DOCUMENT-IDENTIFIER: US 6535795 B1

TITLE: Method for chemical addition utilizing adaptive optimization

DATE-ISSUED: March 18, 2003

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Schroeder; Myron E.	Tomball	TX		
Blaschke; Marilyn W.	Richmond	TX		
Zetlmeisl; Michael J.	Stafford	TX		
Fischer; David M.	Richmond	TX		
Tacchi; Kenneth J.	Houston	TX		

US-CL-CURRENT: 700/266; 210/143, 210/704, 210/705, 210/709, 210/723, 210/726,

210/727, 210/728, 210/739, 210/749, 210/85 , 210/96.1, 700/265, 706/15, 706/23

ABSTRACT:

The present invention provides a method for chemical addition utilizing adaptive process control optimizations having a combination of expert system(s), neural network(s) and genetic algorithm(s).

20 Claims, 27 Drawing figures

Exemplary Claim Number: 1

Number of Drawing Sheets: 27

Full	Title	Citation	Front	Review	Classification	Date	Reference			Claims	KWIC	Drawn De
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☐ 12. Document ID: US 6519765 B1

L3: Entry 12 of 50

File: USPT

Feb 11, 2003

US-PAT-NO: 6519765

DOCUMENT-IDENTIFIER: US 6519765 B1

TITLE: Method and apparatus for eliminating redundant array range checks in a compiler

DATE-ISSUED: February 11, 2003

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Kawahito; Motohiro	Sagamihara			JP
Yasue; Toshiaki	Sagmihara			JP
Komatsu; Hideaki	Yokohama			JP

US-CL-CURRENT: 717/127; 711/108, 714/35, 717/131, 717/132, 717/133, 717/157, 717/158

ABSTRACT:

Java language is, as its specification, capable of detecting an access exceeding an array range, and when there is no user-defined exception handler, moving control to an invoked method after getting out of a method in which an exception occurred, or when there is a user-defined exception handler, moving the process to the exception handler. Accordingly, an array range check is essential since occurrence of an exception may be described as a correct operation. However, an array range check slows execution speed compared with a language which does not require it. In an actual program, there is an array access to ensure that there is no access exceeding a range, and thus elimination of such redundant range checks greatly contributes to improved performance, and in addition, brings about an effect of expanding the range of optimization from the viewpoint of ensuring order of execution between occurrence of an exception and a process with a side effect such as an assignment of a value to an array.

8 Claims, 8 Drawing figures

Exemplary Claim Number: 1

Full	Title	Citation	Front	Review	Classification	Date	Reference	Claims	KWIC	Draw. De
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☐ 13. Document ID: US 6496977 B1

L3: Entry 13 of 50

File: USPT

Dec 17, 2002

US-PAT-NO: 6496977

DOCUMENT-IDENTIFIER: US 6496977 B1

TITLE: Method and system for implementing network filesystem-based aid for computer operating system upgrades

DATE-ISSUED: December 17, 2002

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Hamilton, II; Rick A.	Austin	TX		
Lipton; Steven Jay	Flower Mound	TX		

US-CL-CURRENT: 717/168; 707/203, 717/169

ABSTRACT:

Initially, an automated data collection script is updated to include the identity and location of files containing personality and license information. A list of workstations to be upgraded is then compiled. The workstation list is called by the data collection script when it is executed. The data collection script collects personality and license information from the specified file on the listed workstations. The data collection script then outputs personality and license information to a temporary file at an offboard location. An upgrade script is executed after the workstations' operating systems have been upgraded, which uses the output from the data collection script for restoring personality and license information that may have been deleted or written over during the system upgrade.

31 Claims, 47 Drawing figures

Exemplary Claim Number: 1

Number of Drawing Sheets: 42

Full	Title	Citation	Front	Review	Classification	Date	Reference	Claims	KWIC	Draw. De
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☒ 14. Document ID: US 6477439 B1

L3: Entry 14 of 50

File: USPT

Nov 5, 2002

US-PAT-NO: 6477439

DOCUMENT-IDENTIFIER: US 6477439 B1

TITLE: Method of programming and executing object-oriented state machine logic in a controller

DATE-ISSUED: November 5, 2002

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Bernaden, III; Alex	Greenfield	WI		
Decious; Gaylon M.	Shorewood	WI		
Seem; John E.	Shorewood	WI		
Drees; Kirk H.	Cedarburg	WI		
West; Jonathan D.	Shorewood	WI		
Kuckuk; William R.	Hubertus	WI		

US-CL-CURRENT: 700/103; 707/103R, 707/104.1

ABSTRACT:

A method is disclosed for programming and executing a state machine control program represented as a diagram in an HVAC controller. The diagram is converted to tabular data which is entered into one or more spreadsheet pages. The tabular data includes the defined output states, the defined input states and defined transition states, whereby a given output state and a given set of inputs will cause transition to a next output state. The tabular data is translated, through execution of a routine in a macro-instruction language, into a plurality of data structures for downloading into a finite state machine object data structure in the controller, where it will be acted upon by an object-oriented execution module, referred to as a class execute method, which is also present in the controller.

11 Claims, 10 Drawing figures

Exemplary Claim Number: 1

Number of Drawing Sheets: 10

Full	Title	Citation	Front	Review	Classification	Date	Reference	Claims	KWIC	Draw
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☐ 15. Document ID: US 6434435 B1

L3: Entry 15 of 50

File: USPT

Aug 13, 2002

US-PAT-NO: 6434435

DOCUMENT-IDENTIFIER: US 6434435 B1

TITLE: Application of adaptive object-oriented optimization software to an automatic optimization oilfield hydrocarbon production management system

DATE-ISSUED: August 13, 2002

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Tubel; Paulo S.	The Woodlands	TX		
Hales; Lynn B.	Salt Lake City	UT		
Ynchausti; Randy A.	Centerville	UT		
Foot, Jr.; Donald G.	Fruit Heights	UT		

US-CL-CURRENT: 700/30; 166/250.15, 166/53, 340/853.1, 340/853.3, 340/853.8,  
340/856.3, 700/28, 700/29, 700/31, 700/32, 700/46, 700/49

ABSTRACT:

The systems and the methods relating to process control optimizations systems useful to manage oilfield hydrocarbon production. The systems and the methods utilize intelligent software objects which exhibit automatic adaptive optimization behavior. The systems and the methods can be used to automatically manage hydrocarbon production in accordance with one or more production management goals using one or more adaptable software models of the production processes.

11 Claims, 30 Drawing figures  
Exemplary Claim Number: 1  
Number of Drawing Sheets: 30

Full	Title	Citation	Front	Review	Classification	Date	Reference	Abstract	Claims	FIGS	Drawn
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☒ 16. Document ID: US 6425119 B1

L3: Entry 16 of 50

File: USPT

Jul 23, 2002

US-PAT-NO: 6425119  
DOCUMENT-IDENTIFIER: US 6425119 B1

TITLE: Method to produce application oriented languages

DATE-ISSUED: July 23, 2002

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Jones; Mark A.	New Providence	NJ		
Nakatani; Lloyd H.	Westfield	NJ		

US-CL-CURRENT: 717/100; 717/114

ABSTRACT:

Jargons are a family of application oriented languages well-suited for representing and processing complex, hierarchically structured information. A system is presented that automates most of the work of making a jargon, so practically any programmer can make a simple one in a few days. Every jargon has the same syntax, is processed with same ready-made base interpreter, and comes complete with a suite of "deluxe" features: debugger, error handler, function definition, associative arrays, variables, incremental loader, among others. The system provides a general purpose programming language for writing actions that defines the semantics of a jargon and an interpreter written in the general purpose language and customized for the jargon, by integrating the jargon's actions into the interpreter. Using jargons, the same information document may be reprocessed to generate a multiplicity of products.

16 Claims, 5 Drawing figures  
Exemplary Claim Number: 1  
Number of Drawing Sheets: 2

Full	Title	Citation	Front	Review	Classification	Date	Reference	Abstract	Claims	FIGS	Draw D
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☐ 17. Document ID: US 6400996 B1

L3: Entry 17 of 50

File: USPT

Jun 4, 2002

US-PAT-NO: 6400996

DOCUMENT-IDENTIFIER: US 6400996 B1

TITLE: Adaptive pattern recognition based control system and method

DATE-ISSUED: June 4, 2002

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Hoffberg; Steven M.	West Harrison	NY	10994	
Hoffberg-Borghesani; Linda I.	Acton	MA	01720	

US-CL-CURRENT: 700/83; 345/810, 345/840, 345/841, 370/218, 370/355, 700/17, 700/24, 700/25, 700/86, 700/87, 709/102, 709/223, 709/227, 709/318

ABSTRACT:

An adaptive interface for a programmable system, for predicting a desired user function, based on user history, as well as machine internal status and context. The apparatus receives an input from the user and other data. A predicted input is presented for confirmation by the user, and the predictive mechanism is updated based on this feedback. Also provided is a pattern recognition system for a multimedia device, wherein a user input is matched to a video stream on a conceptual basis, allowing inexact programming of a multimedia device. The system analyzes a data stream for correspondence with a data pattern for processing and storage. The data stream is subjected to adaptive pattern recognition to extract features of interest to provide a highly compressed representation that may be efficiently processed to determine correspondence. Applications of the interface and system include a video cassette recorder (VCR), medical device, vehicle control system, audio device, environmental control system, securities trading terminal, and smart house. The system optionally includes an actuator for effecting the environment of operation, allowing closed-loop feedback operation and automated learning.

25 Claims, 32 Drawing figures

Exemplary Claim Number: 1

Number of Drawing Sheets: 28

Full	Title	Citation	Front	Review	Classification	Date	Reference	Abstract	Claims	FIGS	Draw D
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☐ 18. Document ID: US 6317638 B1

L3: Entry 18 of 50

File: USPT

Nov 13, 2001

US-PAT-NO: 6317638  
DOCUMENT-IDENTIFIER: US 6317638 B1

TITLE: Multi-layer state machine for a hybrid real-time control system and method of operation thereof

DATE-ISSUED: November 13, 2001

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Schreder; James M.	Denver	PA		
Rudnick; Jurgen	Hanau			DE
McLaughlin; Paul F.	Hatfield	PA		
Mody; Pankaj H.	Laguna Niguel	CA		

US-CL-CURRENT: 700/79; 700/2, 700/20, 700/21, 700/6

ABSTRACT:

Various system architectures for a state machine-based, hybrid real-time control system, and methods of operation thereof, are disclosed. In one embodiment of a system architecture for use with a state machine capable of controlling a real-time process and having a plurality of states and handlers that govern transitions between ones of the plurality of states, a system for invoking one of the handlers includes an invoke transition that monitors conditions of the real-time process, the invoke transition causing the automatic invocation of the handler when the conditions match predetermined conditions under which the handler is to be invoked, the invoke transition thereby allowing the handler to be invoked without an explicit command.

42 Claims, 4 Drawing figures  
Exemplary Claim Number: 1  
Number of Drawing Sheets: 3

Full	Title	Citation	Front	Review	Classification	Date	Reference			Claims	KOMIC	Draw. De
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☐ 19. Document ID: US 6272672 B1

L3: Entry 19 of 50

File: USPT

Aug 7, 2001

US-PAT-NO: 6272672  
DOCUMENT-IDENTIFIER: US 6272672 B1

TITLE: Dataflow processing with events

DATE-ISSUED: August 7, 2001

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Conway; Melvin E.	Beverly	MA	01915	

US-CL-CURRENT: 717/107; 717/108

ABSTRACT:

Interactive event-driven programs are structured and executed using two types of constructs: interconnectable processing components and flow objects with associated data. Components are interconnected in a hierarchical dataflow network, and references which provide access to flow objects flow on the interconnections. Response to events and bidirectional coordination over multicomponent data paths, even in a distributed object system, employ unidirectional dataflows and intercomponent message sequences mediated by flow objects. Scaling and abstraction of complexity are facilitated by encapsulation of constructed networks into new component definitions. An interactive debugger preserves state as an executing program is edited, permitting an event-driven program to be modified in the intervals between processing of events without reinitialization. A component protection method employs multiple Levels of usage authorization within components, enabling developers to define and distribute new protected components in a decentralized component market.

151 Claims, 115 Drawing figures  
Exemplary Claim Number: 1  
Number of Drawing Sheets: 77

Full	Title	Citation	Front	Review	Classification	Date	Reference	Abstract	Claims	KMC	Draw D
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☐ 20. Document ID: US 6243859 B1

L3: Entry 20 of 50

File: USPT

Jun 5, 2001

US-PAT-NO: 6243859  
DOCUMENT-IDENTIFIER: US 6243859 B1

TITLE: Method of edit program codes by in time extracting and storing

DATE-ISSUED: June 5, 2001

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Chen-Kuang; Hu	Taipei Hsien			TW

US-CL-CURRENT: 717/111; 717/113, 717/116

ABSTRACT:

A method of extracting and saving program codes in time while the program is being edited. The program codes are analyzed and extracted according to a set of predefined rules for the programming language. Extracted codes are further classified into different categories and stored in corresponding fields of tables of a database. Through built-in graphical user interface which consists of different forms for different purposes, programmers can reuse the stored codes by simply clicking data items or pressing buttons to select desired reusable codes and paste the codes into the file being edited in an effective and error-free way.

16 Claims, 8 Drawing figures  
Exemplary Claim Number: 1  
Number of Drawing Sheets: 8



Full	Title	Citation	Front	Review	Classification	Date	Reference			Claims	FIGS	Draw. De
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☐ 21. Document ID: US 6243851 B1

L3: Entry 21 of 50

File: USPT

Jun 5, 2001

US-PAT-NO: 6243851

DOCUMENT-IDENTIFIER: US 6243851 B1

TITLE: Heterogeneous method for determining module placement in FPGAs

DATE-ISSUED: June 5, 2001

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Hwang; L. James	Menlo Park	CA		
Dellinger; Eric F.	San Jose	CA		
Mitra; Sujoy	Cupertino	CA		
Mohan; Sundararajao	Cupertino	CA		
Patterson; Cameron D.	Los Gatos	CA		
Wittig; Ralph D.	Menlo Park	CA		

US-CL-CURRENT: 716/10; 716/1, 716/16, 716/17, 716/18, 716/21, 716/8, 716/9,  
717/116, 717/118

ABSTRACT:

The invention provides parametric modules called Self Implementing Modules (SIMs) for use in programmable logic devices such as FPGAs. The invention further provides tools and methods for generating and using SIMs. SIMs implement themselves at the time the design is elaborated, targeting a specified FPGA according to specified parameters. In one embodiment, a SIM references or includes one or more floorplanners each of which may employ one or more placement algorithms. Such placement algorithms might include, for example: a linear ordering algorithm that places datapath logic bitwise in a regular linear pattern; a rectangular mesh algorithm that implements memory in a grid pattern in distributed RAM; a columnar algorithm for counters and other arithmetic logic; or a simulated annealing algorithm for random logic such as control logic. Therefore, a design including more than one SIM can utilize a plurality of placement algorithms at the same or different levels of hierarchy. The design as a whole can therefore utilize a non-uniform global placement strategy.

30 Claims, 27 Drawing figures

Exemplary Claim Number: 1

Number of Drawing Sheets: 19

Full	Title	Citation	Front	Review	Classification	Date	Reference			Claims	FIGS	Draw. De
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☒ 22. Document ID: US 6226792 B1

US-PAT-NO: 6226792

DOCUMENT-IDENTIFIER: US 6226792 B1

TITLE: Object management system supporting the use of application domain knowledge mapped to technology domain knowledge

DATE-ISSUED: May 1, 2001

## INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Goiffon; David A.	Shoreview	MN		
Hartmann; Gerald E.	Minneapolis	MN		
Johnson; David R.	Oakdale	MN		

US-CL-CURRENT: 717/120; 707/200

## ABSTRACT:

An object management system is providing for managing, cataloging, and discovering various potentially reusable code and data components that exist within an Information Technology (IT) platform, and which each have well-defined interfaces with other components. For each of these re-usable code and data components, an associated software object called an "asset element" is created that describes the associated component. Relationships are created between various asset elements to represent the relationships existing between the software components. Other software objects called "locator elements" are created that each describes an application concept or sub-concept. This application concept or sub-concept is associated with a problem solved by the code and data components within the IT platform. Relationships are created between the various locator elements to correlate the concepts and sub-concepts to software constructs represented by asset elements. The object management system further supports various object discovery tools capable of identifying locator elements associated with a particular concept. These locator elements and the associated relationships may then be efficiently traced to identify related asset elements and the associated software and code constructs. This provides an efficient concept-based search mechanism for the code constructs. Other tools are provided for creating, modifying, and deleting the elements. A model may be used to define the various types of relationships and elements that may exist within the system, thereby simplifying the various tools needed to support element creation, modification, deletion, and traversal.

7 Claims, 24 Drawing figures

Exemplary Claim Number: 1

Number of Drawing Sheets: 20

Full	Title	Citation	Front	Review	Classification	Date	Reference	Abstract	Claims	KWIC	Draw D
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☐ 23. Document ID: US 6185469 B1

L3: Entry 23 of 50

File: USPT

Feb 6, 2001

US-PAT-NO: 6185469

DOCUMENT-IDENTIFIER: US 6185469 B1

TITLE: Method and apparatus for testing and controlling a flexible manufacturing system

DATE-ISSUED: February 6, 2001

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Lewis; Frank L.	Bedford	TX		
Taconi; Diego A.	Arlington	TX		
Pastravanu; Octavian C.	Iasi			RO
Gurel; Ayla	Famagusta Via Mersin			TR

US-CL-CURRENT: 700/99; 700/101, 700/96, 705/8

ABSTRACT:

The invention comprises in various embodiments controllers and apparatus for testing flexible manufacturing systems and methods of operating same. The controller includes a computer, a program, output lines from the computer, and devices connected to the output lines. The program uses matrix logic equations to determine when to start and stop jobs. The devices start and stop individual resources in response to logic signals from the computer. In one embodiment, the controller obtains sensor feedback on the distribution of work pieces and available resources in the manufacturing system. The invention also includes an apparatus and methods for testing a flexible manufacturing system. In response to the input of initial data, the apparatus for testing a flexible manufacturing system solves matrix equations and determines the activity and/or production of the manufacturing system. The apparatus for testing a flexible manufacturing system sends logical signals to a recording device which, in one embodiment, produce a cumulative display of the time dependent production or activity of the system.

31 Claims, 6 Drawing figures

Exemplary Claim Number: 1

Number of Drawing Sheets: 6

Full	Title	Citation	Front	Review	Classification	Date	Reference			Claims	RMIC	Draw. D
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☐ 24. Document ID: US 6158044 A

L3: Entry 24 of 50

File: USPT

Dec 5, 2000

US-PAT-NO: 6158044

DOCUMENT-IDENTIFIER: US 6158044 A

TITLE: Proposal based architecture system

DATE-ISSUED: December 5, 2000

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
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US-CL-CURRENT: 717/100; 707/1, 709/310

## ABSTRACT:

A proposal based architecture system that converts a transaction submission process into a generic object in a computer environment. A preferred embodiment of the invention provides a tool set which allows the user to create a set of Proposal Specifications which define the structure of the possible components of a Proposal. The user defines the complete characteristics (meta-data) for any kind of Proposal which define the hierarchy of domain relationships, interaction modes, validation references, and assumptions. The actual Proposal instance is formed using the definitions in the Proposal Specifications. A Proposal allows a user to add, change, and annotate data, is self aware and navigates between pages and skips to appropriate fields automatically and supports n-level undo/redo. It also tracks all versions of data updates and the user that is responsible for each data update, recognizes and corrects stale data, and enables long-lived transactions, off-line transaction processing, and collaborative transactions. A Proposal is accessed via multiple User Interfaces (UI), breaking the close coupling between the front-end and the back-end and allowing the user to add a Web or Graphical User Interface (GUI) front-end without having to rewrite the back-end application. A UI coordinator maps user input fields to components of the Proposal and communicates with different user interfaces such as: Internet; Graphical User Interface (GUI); Object Oriented User Interface (OOUI); proprietary interface; and devices such as bar code readers or keypads. The invention also provides a default UI and components. A set of Transaction Processing/Data Processing (TP/DP) interfaces are provided to communicate with back-end transactional interfaces such as Database Management Systems (DBMS), Transactional Processing (TP) Monitors, and Object Oriented Databases.

75 Claims, 30 Drawing figures

Exemplary Claim Number: 1

Number of Drawing Sheets: 19

Full	Title	Citation	Front	Review	Classification	Date	Reference	Claims	KWIC	Draw. D.
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☒ 25. Document ID: US 6134706 A

L3: Entry 25 of 50

File: USPT

Oct 17, 2000

US-PAT-NO: 6134706

DOCUMENT-IDENTIFIER: US 6134706 A

TITLE: Software business objects in a multi-level organizational structure

DATE-ISSUED: October 17, 2000

## INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Carey; James	Rochester	MN		
Carlson; Brent	Sollentuna			SE
Graser; Timothy	Rochester	MN		

US-CL-CURRENT: 717/102; 345/853, 705/1, 707/9, 717/104, 717/108

## ABSTRACT:

The present invention relates to a method of developing a software system using Object Oriented Technology. The present invention addresses the problem of providing a technical foundation for the development of software applications using Object Oriented Technology and frameworks. The present invention solves this problem with a framework allowing the modeling of businesses with a multiple level organizational structure. The present invention is applicable in the technical field of application development of software systems, e.g. for a business application as Financial or Logistic and Distribution, wherein it is the purpose of frameworks to provide significant portions of the application that are common across multiple implementations of the application in a general manner, easy to extend for specific implementation.

9 Claims, 5 Drawing figures  
Exemplary Claim Number: 1  
Number of Drawing Sheets: 5

Full	Title	Citation	Front	Review	Classification	Date	Reference			Claims	KOMC	Draw. De
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☒ 26. Document ID: US 6119125 A

L3: Entry 26 of 50

File: USPT

Sep 12, 2000

US-PAT-NO: 6119125

DOCUMENT-IDENTIFIER: US 6119125 A

**\*\* See image for Certificate of Correction \*\***

TITLE: Software components for a building automation system based on a standard object superclass

DATE-ISSUED: September 12, 2000

## INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Gloudeman; Jeffrey J.	Franklin	WI		
Gottschalk; Donald A.	Wauwatosa	WI		
Rasmussen; David E.	Dousman	WI		
Wainscott, Jr.; Barrett G.	Waukesha	WI		

US-CL-CURRENT: 707/103R; 700/266, 707/104.1, 709/321

## ABSTRACT:

A computer-implemented building automation system provides a computer software architecture that supports object-oriented system development. An application engineer designs an application to perform a building automation function that solves a problem or customer need in the context of a building automation system. In the object-oriented paradigm, standard objects are the fundamental building

block used to construct an application. Based on predetermined physical relationships defined by physical laws associated with building automation functions, the present invention defines a fundamental set of control-based standard objects for constructing an application. An additional set of information-type standard objects have also been defined for use in conjunction with this set of control-based standard objects. Standard objects are interconnected by "pulling" or "pushing" information from one standard object to another standard object using common communication methods. Assembly objects and application objects are two additional types of user-defined standard objects for interconnecting standard objects, thereby constructing a building automation application.

8 Claims, 9 Drawing figures  
Exemplary Claim Number: 1  
Number of Drawing Sheets: 8

Full	Title	Citation	Front	Review	Classification	Date	Reference			Claims	KMIC	Draw. D.
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☐ 27. Document ID: US 6112126 A

L3: Entry 27 of 50

File: USPT

Aug 29, 2000

US-PAT-NO: 6112126  
DOCUMENT-IDENTIFIER: US 6112126 A

TITLE: Adaptive object-oriented optimization software system

DATE-ISSUED: August 29, 2000

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Hales; Lynn B.	Salt Lake City	UT		
Ynchausti; Randy A.	Centerville	UT		
Foot, Jr.; Donald G.	Fruit Heights	UT		

US-CL-CURRENT: 700/29; 700/28, 700/30, 700/49, 700/83, 700/86

ABSTRACT:

The present invention relates to process control optimization systems which utilize an adaptive optimization software system comprising goal seeking intelligent software objects; the goal seeking intelligent software objects further comprise internal software objects which include expert system objects, adaptive models objects, optimizer objects, predictor objects, sensor objects, and communication translation objects. The goal seeking intelligent software objects can be arranged in a hierarchical relationship whereby the goal seeking behavior of each intelligent software object can be modified by goal seeking intelligent software objects higher in the hierarchical structure. The goal seeking intelligent software objects can also be arranged in a relationship which representationally corresponds to the controlled process' flow of materials or data.

21 Claims, 27 Drawing figures  
Exemplary Claim Number: 1  
Number of Drawing Sheets: 27

Full	Title	Citation	Front	Review	Classification	Date	Reference			Claims	KWIC	Draw D
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☐ 28. Document ID: US 6112024 A

L3: Entry 28 of 50

File: USPT

Aug 29, 2000

US-PAT-NO: 6112024

DOCUMENT-IDENTIFIER: US 6112024 A

TITLE: Development system providing methods for managing different versions of objects with a meta model

DATE-ISSUED: August 29, 2000

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Almond; Kenneth	Santa Clara	CA		
Wait; Robert	San Francisco	CA		
Thombre; Atul	Fremont	CA		
Shaw; Richung	Milpitas	CA		

US-CL-CURRENT: 717/122; 707/203, 715/511

ABSTRACT:

An "Object Cycle" versioning system having an Object Cycle Server is described. The server communicates over a wire or a network for providing versioning services to multiple clients. During a user session, a user invokes operation of the system from within the development environment of the particular client being used. From the perspective of the Object Cycle Server, each client is simply "a client" (without regard to proprietary nature) which desires to store "an object." The Object Cycle Server, in turn, maps the object into a meta model which serves as a container for facilitating version control. With the model, therefore, operations supported by the system for versioning will execute correctly even if the objects are stored in a format other than a relational database, such as an object-oriented database, a file server, or other storage system. The model separates out the name of an object from where the object itself is actually stored. As additional versions of the object are created, the number of object instances increases. Once an instance has been created, versioning activities can be undertaken, such as checking in, checking out, and the like--operations which are atomic at the object level. By separating out these areas of functionality into (conceptually) different nodes of a meta model, system performance is enhanced.

35 Claims, 17 Drawing figures

Exemplary Claim Number: 1

Number of Drawing Sheets: 16

Full	Title	Citation	Front	Review	Classification	Date	Reference			Claims	KWIC	Draw D
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☐ 29. Document ID: US 6106575 A

US-PAT-NO: 6106575  
DOCUMENT-IDENTIFIER: US 6106575 A

TITLE: Nested parallel language preprocessor for converting parallel language programs into sequential code

DATE-ISSUED: August 22, 2000

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Hardwick; Jonathan C.	Cambridge			GB

US-CL-CURRENT: 717/119; 709/102, 709/105, 709/108, 709/331, 712/229, 712/28, 717/149, 717/162

ABSTRACT:

A preprocessor for a nested parallel language converts a program written in the nested parallel language to a sequential programming language and calls to a message passing interface. The sequential programming language and message passing calls are compiled and linked with run-time libraries supporting functions in the nested parallel language and the message passing interface. The nested parallel language includes both control parallel and data parallel operations. In addition, it provides a collection oriented data type for data parallel operations. By converting the nested parallel language to sequential code and the message passing interface, the preprocessor enables programs in the nested parallel language to be easily ported to variety of parallel computers.

27 Claims, 13 Drawing figures  
Exemplary Claim Number: 1  
Number of Drawing Sheets: 11

Full	Title	Citation	Front	Review	Classification	Date	Reference			Claims	KOMC	Draw. De
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☒ 30. Document ID: US 6106569 A

L3: Entry 30 of 50

File: USPT

Aug 22, 2000

US-PAT-NO: 6106569  
DOCUMENT-IDENTIFIER: US 6106569 A

TITLE: Method of developing a software system using object oriented technology

DATE-ISSUED: August 22, 2000

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Bohrer; Kathryn Ann	Austin	TX		
Carey; James E.	Rochester	MN		
Carlson; Brent A.	Sollentuna			SE



Graser; Timothy	Rochester	MN	
Nilsson; Anders	Hagan		NO
Vlissides; John M.	Mohegan Lake	NY	

US-CL-CURRENT: 717/100; 705/7, 707/103R, 707/104.1, 707/203, 709/316, 717/108

ABSTRACT:

A method of developing a software system using Object Oriented Technology and frameworks. The problem of allowing an object to acquire and lose ability and function and to modify responsibilities on an object dynamically or, in other words, to allow an object to acquire and lose the ability to do things dynamically, is addressed. This problem is solved with a framework to be used for developing a software system, e.g. for a business application. The framework comprises a number of classes which are to be processed by a computer system. The framework further comprises a Life Cycle as a description of state transitions through which an object can proceed as it is processed by an application. This is applicable in the technical field of application development of software systems, e.g. for a business application as Financial or Logistic and Distribution, wherein it is the purpose of frameworks to provide significant portions of the application that are common across multiple implementations of the application in a general manner, easy to extend for specific implementation.

5 Claims, 7 Drawing figures  
Exemplary Claim Number: 1  
Number of Drawing Sheets: 7

Full	Title	Citation	Front	Review	Classification	Date	Reference	Claims	KWIC	Draw. Des.
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☐ 31. Document ID: US 6088511 A

L3: Entry 31 of 50

File: USPT

Jul 11, 2000

US-PAT-NO: 6088511

DOCUMENT-IDENTIFIER: US 6088511 A

TITLE: Nested parallel 2D Delaunay triangulation method

DATE-ISSUED: July 11, 2000

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Hardwick; Jonathan C.	Cambridge			GB

US-CL-CURRENT: 717/149; 345/423, 712/36

ABSTRACT:

A nested parallel implementation of 2D triangulation method recursively sub-divides processors of a parallel computer into asynchronous processor teams. Each of the teams uses data parallel operations to compute a partitioning of the collection of points distributed to it. When each team has a single processor as a result of the recursive partitioning steps, the processors switch to a serial version of the 2D

triangulation method. The nested parallel implementation has two levels of recursion: 1) one to partition a collection of points into two new sets; and 2) a second layer nested in the first to compute convex hulls used to form a border around the two new sets of points. In each layer of recursion the implementation sub-divides processors into teams and assigns a control parallel function to each team. Within each team, the processors perform data parallel operations on the collection of points distributed to the processors in the team.

13 Claims, 20 Drawing figures  
Exemplary Claim Number: 1  
Number of Drawing Sheets: 15

Full	Title	Citation	Front	Review	Classification	Date	Reference	Abstract	Claims	FIGS	Draw
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☐ 32. Document ID: US 5950201 A

L3: Entry 32 of 50

File: USPT

Sep 7, 1999

US-PAT-NO: 5950201  
DOCUMENT-IDENTIFIER: US 5950201 A

TITLE: Computerized design automation method using a single logical PFVL paradigm

DATE-ISSUED: September 7, 1999

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Van Huben; Gary Alan	Poughkeepsie	NY		
Mueller; Joseph Lawrence	Poughkeepsie	NY		

US-CL-CURRENT: 707/10; 700/96, 707/102, 707/203, 707/4, 707/8, 709/201

ABSTRACT:

A design control system suitable for use in connection with the design of integrated circuits and other elements of manufacture having many parts which need to be developed in a concurrent engineering environment with inputs provided by users and or systems which may be located anywhere in the world providing a set of control information for coordinating movement of the design information through development and to release while providing dynamic tracking of the status of elements of the bills of materials in an integrated and coordinated activity control system utilizing a repository which can be implemented in the form of a database (relational, object oriented, etc.) or using a flat file system. Once a model is created and/or identified by control information design libraries hold the actual pieces of the design under control of the system without limit to the number of libraries, and providing for tracking and hierarchical designs which are allowed to traverse through multiple libraries. Data Managers become part of the design team, and libraries are programmable to meet the needs of the design group they service.

26 Claims, 37 Drawing figures  
Exemplary Claim Number: 1  
Number of Drawing Sheets: 26

Full	Title	Citation	Front	Review	Classification	Date	Reference			Claims	KMIC	Draw. De
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☐ 33. Document ID: US 5940296 A

L3: Entry 33 of 50

File: USPT

Aug 17, 1999

US-PAT-NO: 5940296

DOCUMENT-IDENTIFIER: US 5940296 A

TITLE: Method and system for interactively developing a graphical control-flow structure and associated application software for use in a machine vision system

DATE-ISSUED: August 17, 1999

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Meyer; Frank	Milford	MI		

US-CL-CURRENT: 700/83

ABSTRACT:

A method and system are provided for interactively developing a graphical, control-flow structure and associated application software for use in a machine vision system using a computer system without the need for a user to write any code. Preferably, the method and system "marry" the ActiveX control standard and the Graftet/IEC 1131 standard. The structure includes a control sequence having a plurality of steps or nodes, transitions, and links or flow lines which interconnect the nodes and transitions. Hardware operating parameters are stored which correspond to possible hardware for use in the machine vision system. The hardware operating parameters define a set of standard controls having properties. Commands are received from the user of the computer system to select a first control program corresponding to a desired component of a user interface, desired hardware operating parameters corresponding to desired hardware and second control programs corresponding to desired machine vision algorithms. Graphical representations or icons are selected which correspond to the desired second control programs and are displayed in the structure as nodes and/or inputs/outputs of the nodes. The first control program is linked with the desired hardware operating parameters to the second control programs to form the application software. The step of linking includes the step of setting the property of one standard control to be equal to one property of another standard control to form the application software in response to the commands without the user writing any of the application software.

32 Claims, 8 Drawing figures

Exemplary Claim Number: 1

Number of Drawing Sheets: 6

Full	Title	Citation	Front	Review	Classification	Date	Reference			Claims	KMIC	Draw. De
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☐ 34. Document ID: US 5907820 A

US-PAT-NO: 5907820

DOCUMENT-IDENTIFIER: US 5907820 A

TITLE: System for acquiring and analyzing a two-dimensional array of data

DATE-ISSUED: May 25, 1999

## INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Pan; Shaoher X	San Jose	CA		

US-CL-CURRENT: 702/155; 204/298.32, 700/17, 700/83, 702/31

## ABSTRACT:

A system for acquiring and displaying which represents a two-dimensional array of data in an intuitive graphical display, where the graphical display is controlled through a plurality of display interfaces. Specifically, the system acquires data representing a phenomenon such as a plasma, processes that data and displays the data, in real-time, in one of a number of user selectable graphical formats. The data, once acquired, can be further processed by editing, filtering and smoothing. Such processed data can then be "replayed" such that a user can compare various sets of data acquired under various test scenarios. Additionally, the system is used to control and optimize a plasma within plasma generating equipment.

33 Claims, 24 Drawing figures

Exemplary Claim Number: 1

Number of Drawing Sheets: 24

Full	Title	Citation	Front	Review	Classification	Date	Reference			Claims	KWIC	Draw. Cl.
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☐ 35. Document ID: US 5884072 A

L3: Entry 35 of 50

File: USPT

Mar 16, 1999

US-PAT-NO: 5884072

DOCUMENT-IDENTIFIER: US 5884072 A

TITLE: Networked facilities management system with updated data based on aging time

DATE-ISSUED: March 16, 1999

## INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Rasmussen; David E.	Wales	WI		

US-CL-CURRENT: 709/223; 700/2, 700/3, 709/224

## ABSTRACT:

A networked system having a wide variety of applications and particularly applicable to facilities management systems has multiple levels of software in processsing nodes. The levels include a "features" processing level which communicates requests for data to a software object level containing databases of processes and attributes and database managers. The database managers in the software object level operate to provide data to the high level features in the same format. The software object level communicates with a hardware object level which also contains databases and database managers to mask differences between operational hardware units. By categorizing operational units by type, additional units of a known type can be added with only low level hardware object database changes. Adding units of a new type is facilitated by software changes confined to the lower level hardware and software objects, avoiding software changes at high level features. Individual software objects are tailored for typical types of inputs and output devices encountered by facilities management systems. Universal drive circuitry also provides applicability to a broad range of devices. Data is stored with an aging time such that during a time period when a data item is valid, requests for that particular data item are serviced with the stored data. A request for the particular data item which occurs after the data item aging time is serviced with a new value of the data which is again valid for the aging time.

13 Claims, 86 Drawing figures  
Exemplary Claim Number: 1  
Number of Drawing Sheets: 83

Full	Title	Citation	Front	Review	Classification	Date	Reference			Claims	FIGS	Draw. D.
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☐ 36. Document ID: US 5878260 A

L3: Entry 36 of 50

File: USPT

Mar 2, 1999

US-PAT-NO: 5878260

DOCUMENT-IDENTIFIER: US 5878260 A

TITLE: Information handling system, method, and article of manufacture including object name services with multilevel indices

DATE-ISSUED: March 2, 1999

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Copeland; George Prentice	Austin	TX		
Kumar; Vinoj Narayan	Austin	TX		

US-CL-CURRENT: 717/108; 709/316, 717/165

ABSTRACT:

A prior art naming module supports binding of an object to a name in a Naming Context (i.e., a directory). The present invention extends this original module to support properties (data about bindings), searching (finding bindings given constraints on properties) and indexing (for speeding up the search on certain property names). The ExtendedNamingContext (ENC) is a subclass of the OMG NamingContext (NC) that introduces properties, searching and indexing.

17 Claims, 5 Drawing figures  
Exemplary Claim Number: 1  
Number of Drawing Sheets: 3

Full	Title	Citation	Front	Review	Classification	Date	Reference			Claims	KWIC	Draw. De
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☐ 37. Document ID: US 5870686 A

L3: Entry 37 of 50

File: USPT

Feb 9, 1999

US-PAT-NO: 5870686  
DOCUMENT-IDENTIFIER: US 5870686 A

TITLE: Intelligent Mobile product application control system

DATE-ISSUED: February 9, 1999

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Monson; Robert J.	St. Paul	MN		

US-CL-CURRENT: 701/1; 239/1, 239/656, 340/990, 700/123, 701/202, 701/207, 701/50

ABSTRACT:

An intelligent mobile product application control system capable of controlling product application by calculating control values on a per position basis from data that has traditionally been used to generate digital land area maps. The system includes a vehicle having coupled thereto at least one distributed network including at least one intelligent control module having a geographic raw data processor. The intelligent control module is responsive to raw geographic information data for controlling at least one actuator device in a manner that results in at least one predetermined product being applied to a predetermined geographic land area at variable rates determined by the raw geographic information data.

29 Claims, 14 Drawing figures  
Exemplary Claim Number: 1  
Number of Drawing Sheets: 9

Full	Title	Citation	Front	Review	Classification	Date	Reference			Claims	KWIC	Draw. De
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☐ 38. Document ID: US 5862386 A

L3: Entry 38 of 50

File: USPT

Jan 19, 1999

US-PAT-NO: 5862386  
DOCUMENT-IDENTIFIER: US 5862386 A

TITLE: Apparatus and method for providing a facility for managing versions and configurations of persistent and transient objects

DATE-ISSUED: January 19, 1999

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Joseph; Vappala John	Plano	TX		
Shadowens; Mark Benjamin	Irving	TX		
Thompson; Craig Warren	Plano	TX		
Chen; John Chung-Lin	Plano	TX		

US-CL-CURRENT: 717/170

ABSTRACT:

A system and method for managing change in software systems and applications manages change for both transient and persistent objects in a domain independent, non-intrusive, object-oriented fashion. The system and method are designed and implemented as a combination of two abstract machines consisting of a set of interface functions visible to the application, and an internal or private state which is hidden from such application. Applications use the interface functions to obtain the services of this change management system and method. Since the internal state of such system and method is outside the application, change management is provided as a service without the need for altering or adding onto application data structures and interfaces.

20 Claims, 7 Drawing figures

Exemplary Claim Number: 1

Number of Drawing Sheets: 2

Full	Title	Citation	Front	Review	Classification	Date	Reference			Claims	FIGS	Draw. De
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☐ 39. Document ID: US 5787280 A

L3: Entry 39 of 50

File: USPT

Jul 28, 1998

US-PAT-NO: 5787280

DOCUMENT-IDENTIFIER: US 5787280 A

TITLE: Apparatus and method for providing a facility for managing versions and configurations of persistent and transient objects

DATE-ISSUED: July 28, 1998

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Joseph; Vappala John	Plano	TX		
Shadowens; Mark Benjamin	Irving	TX		
Thompson; Craig Warren	Plano	TX		
Chen; John Chung-Lin	Plano	TX		

US-CL-CURRENT: 707/203; 717/170

ABSTRACT:

A system (20) and method for managing change in software systems and applications manages change for both transient and persistent objects in a domain independent, non-intrusive, object-oriented fashion. The system (20) and method are designed and implemented as a combination of two abstract machines (22,24) consisting of a set of interface functions (25,26) visible to the application, and an internal or private state (27,28) which is hidden from such application. Applications use the interface functions (25,26) to obtain the services of this change management system (20) and method. Since the internal state of such system (20) and method is outside the application, change management is provided as a service without the need for altering or adding onto application data structures and interfaces.

11 Claims, 7 Drawing figures

Exemplary Claim Number: 1

Number of Drawing Sheets: 2

Full	Title	Citation	Front	Review	Classification	Date	Reference			Claims	KWIC	Draw. De
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☐ 40. Document ID: US 5774689 A

L3: Entry 40 of 50

File: USPT

Jun 30, 1998

US-PAT-NO: 5774689

DOCUMENT-IDENTIFIER: US 5774689 A

TITLE: Network configuration management system for digital communication networks

DATE-ISSUED: June 30, 1998

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Curtis; David C.	Chester Springs	PA		
Curtis; Kathleen P.	Chester Springs	PA		
Denunzio; David D.	Glenside	PA		
Reed; William P.	Haddonfield	NJ		
Wolak; Robert A.	Audubon	PA		

US-CL-CURRENT: 703/21; 345/803, 370/351, 379/201.12, 379/219, 700/99, 703/27, 709/205, 709/315, 714/4

ABSTRACT:

An arrangement (apparatus and method) for dynamically provisioning infrastructure components in a digital communication network using an object-oriented relational paradigm. A network configuration system, also referred to as a video support system, stores all related information on each of the infrastructure components (IFCs) as objects in an object oriented relational database, including the functions, capabilities, locations, when and how the IFCs are assigned, and the capacities, working and spare, existing in and between various locations. The objects are arranged into clusters based on common characteristics, and the object clusters (modules), selectively access other modules to provide functional and logical connections independent from nonrelevant objects, such as physical



location. Entity relationships establish the relevancy of different objects and object clusters. The object-oriented relational paradigm allows new technology devices to be added to the infrastructure, and enables intelligent infrastructure components to perform dynamic and adaptive configurations with minimal modification in the provisioning system.

22 Claims, 12 Drawing figures

Exemplary Claim Number: 1

Number of Drawing Sheets: 12

Full	Title	Citation	Front	Review	Classification	Date	Reference	Figures	Drawings	Claims	RWC	Draw. De
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☐ 41. Document ID: US 5726979 A

L3: Entry 41 of 50

File: USPT

Mar 10, 1998

US-PAT-NO: 5726979

DOCUMENT-IDENTIFIER: US 5726979 A

TITLE: Network management system

DATE-ISSUED: March 10, 1998

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Henderson; Gregory Scott	Plano	TX		
Perry; Wayne B.	Richardson	TX		
Franklin; Thomas Dennie	Plano	TX		
Sanders, Jr.; Ed J.	Ft. Worth	TX		
Cooley; Von A.	Richardson	TX		

US-CL-CURRENT: 370/254; 700/29

ABSTRACT:

A system and method for managing a telecommunications network. The system and method employs a network management architecture that provides an overlay in which network management functions are performed. The network management architecture includes a workstation function that provides a graphical user interface (GUI) for a user to interact with an object model of the physical telecommunications network, a telecommunications network management subsystem that provides an object model of the network including object models of network equipment and connectivity between the equipment, a database subsystem that stores "current" and "future" views of the network, and an object request broker that translates objects from a first object-oriented paradigm to a second object-oriented paradigm for use by the GUI. The network management architecture facilitates network design by determining network performance metrics. The network architecture can also be used to assess the performance of a given network configuration by virtue of simulation. The network architecture can also be used to initialize switchover logic for network restoration.

16 Claims, 21 Drawing figures

Exemplary Claim Number: 11

Full	Title	Citation	Front	Review	Classification	Date	Reference	Abstract	Claims	KWIC	Draw. De
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☐ 42. Document ID: US 5726883 A

L3: Entry 42 of 50

File: USPT

Mar 10, 1998

US-PAT-NO: 5726883

DOCUMENT-IDENTIFIER: US 5726883 A

TITLE: Method of customizing control interfaces for devices on a network

DATE-ISSUED: March 10, 1998

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Levine; Jonathan D.	Rochester	NY		
Parsons; David M.	Victor	NY		

US-CL-CURRENT: 700/83; 345/839, 345/854, 345/970

ABSTRACT:

A method of storing and retrieving a customized interface control from a user display. The user display includes an array of pathway buttons and is interconnected to plural devices on a network. The method includes displaying and activating a job programming button to display programming options including save and save as options, engaging the save option to store the customized interface control in a general saved interface control category or store the customized interface control under a user defined reference. Included are techniques for expanding the features of selected machines on the network and creating selected multi-function operations not previously available.

10 Claims, 9 Drawing figures

Exemplary Claim Number: 1

Number of Drawing Sheets: 8

Full	Title	Citation	Front	Review	Classification	Date	Reference	Abstract	Claims	KWIC	Draw. De
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☐ 43. Document ID: US 5625823 A

L3: Entry 43 of 50

File: USPT

Apr 29, 1997

US-PAT-NO: 5625823

DOCUMENT-IDENTIFIER: US 5625823 A

TITLE: Method and apparatus for controlling connected computers without programming

DATE-ISSUED: April 29, 1997

## INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Debenedictis; Erik P.	Redwood City	CA	94065	
Johnson; Stephen C.	Palo Alto	CA	94301	

US-CL-CURRENT: 717/139; 709/100, 709/320, 717/146

## ABSTRACT:

A process for creating, maintaining, and executing network applications. A user specifies a network application as an interconnection of tasks, each task being addressed to run on one or more computers. Process steps install and execute the application with accommodation for dynamically changing addresses. During execution, process steps compile or interpret source code on remote computers as needed. Process steps permit application changes during execution subject to limitations and fail-safes that prevent non-programmers from creating invalid changes.

13 Claims, 32 Drawing figures  
 Exemplary Claim Number: 1  
 Number of Drawing Sheets: 23

Full	Title	Citation	Front	Review	Classification	Date	Reference			Claims	KWIC	Draw. Des
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☐ 44. Document ID: US 5581764 A

L3: Entry 44 of 50

File: USPT

Dec 3, 1996

US-PAT-NO: 5581764

DOCUMENT-IDENTIFIER: US 5581764 A

TITLE: Distributed computer network including hierarchical resource information structure and related method of distributing resources

DATE-ISSUED: December 3, 1996

## INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Fitzgerald; Albion J.	Ridgewood	NJ		
Fitzgerald; Joseph J.	New Paltz	NY		

US-CL-CURRENT: 709/223; 717/121

## ABSTRACT:

In an enterprise-wide network which includes at least one centralized computer and a plurality of desktop computers, a method for enterprise system management comprising the steps of: storing an Already Have list for each desktop; storing a plurality of Should Have sub-lists; and generating a respective Should Have list from the stored sub-lists for a respective desktop computer during configuration of the desktop computer; wherein the Schema of the generated Should Have list includes at least one dynamic linkage which encompasses more than one Should Have sub-lists.

88 Claims, 29 Drawing figures  
Exemplary Claim Number: 1  
Number of Drawing Sheets: 28

Full	Title	Citation	Front	Review	Classification	Date	Reference			Claims	KWMC	Draw. De
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☐ 45. Document ID: US 5519862 A

L3: Entry 45 of 50

File: USPT

May 21, 1996

US-PAT-NO: 5519862  
DOCUMENT-IDENTIFIER: US 5519862 A

TITLE: Concurrent processing apparatus with incremental command objects

DATE-ISSUED: May 21, 1996

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Schaeffer; Arnold	Belmont	CA		
Goldsmith; David B.	Los Gatos	CA		
Moeller; Christopher P.	Los Altos	CA		
Heninger; Andrew G.	Mountain View	CA		

US-CL-CURRENT: 717/165; 717/110

ABSTRACT:

A method and apparatus for an innovative object oriented framework system is disclosed. The system uses an innovative load architecture for a framework application by multiple users. The load architecture implements functions, static data and classes in a more flexible manner than prior operating systems.

42 Claims, 30 Drawing figures  
Exemplary Claim Number: 1  
Number of Drawing Sheets: 19

Full	Title	Citation	Front	Review	Classification	Date	Reference			Claims	KWMC	Draw. De
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☐ 46. Document ID: US 5479601 A

L3: Entry 46 of 50

File: USPT

Dec 26, 1995

US-PAT-NO: 5479601  
DOCUMENT-IDENTIFIER: US 5479601 A

TITLE: Method and apparatus for processing commands generated by user interface controls in an atomic manner

DATE-ISSUED: December 26, 1995

## INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Matheny; John R.	Mountain View	CA		
White; Christopher	Mountain View	CA		
Anderson; David R.	Cupertino	CA		

US-CL-CURRENT: 345/700; 345/701, 717/168

## ABSTRACT:

An object-oriented user interface utilizes object-oriented controls that operate together as a single, atomic group to change data values and are affected as a group by conventional editing "undo" and "redo" actions. In accordance with one embodiment, each control in the group generates a command which modifies a stored control value when the control is manipulated by a user. In response to user activation, a group acceptance control generates a command which causes the data values to be changed to the stored control values. In accordance with another embodiment, each control in the group generates a command which modifies the group acceptance control command. When the group acceptance control command is finally activated, the modified command causes the data values to be changed. The entire control group can also be undone and redone in a single atomic operation which is implemented by placing a mark on an undo stack when an interface session involving a control group is started. When the session ends, all of the commands executed since the mark was placed on the undo stack are collected together into a single command group which can be undone or redone as a unit.

16 Claims, 20 Drawing figures

Exemplary Claim Number: 1

Number of Drawing Sheets: 13

Full	Title	Citation	Front	Review	Classification	Date	Reference			Claims	KOMC	Draw. De
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☐ 47. Document ID: US 5463735 A

L3: Entry 47 of 50

File: USPT

Oct 31, 1995

US-PAT-NO: 5463735

DOCUMENT-IDENTIFIER: US 5463735 A

TITLE: Method of downloading information stored in an arching device to destination network controller through intermediate network controllers in accordance with routing information

DATE-ISSUED: October 31, 1995

## INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Pascucci; Gregory A.	Waukesha	WI		
Rasmussen; David E.	Wales	WI		
Decious; Gaylon M.	Milwaukee	WI		
Garbe; James R.	Greenfield	WI		
Hyzer; Susan M.	Brown Deer	WI		

Woest; Karen L.	Wauwatosa	WI
Vairavan; Vairavan	Milwaukee	WI
Koch; David L.	Fox Point	WI
Gottschalk, Jr.; Donald A.	Milwaukee	WI
Burkhardt; Dennis E.	Franklin	WI
Standish; Darrell E.	New Berlin	WI
Madaus; Paul W.	Oak Creek	WI
Spacek; Dan J.	Cudahy	WI
Nesler; Clay G.	New Berlin	WI
Stark; James K.	Wauwatosa	WI
Mageland; Otto M.	Greenfield	WI
Singers; Robert R.	Brown Deer	WI
Wagner; Michael E.	Delafield	WI

US-CL-CURRENT: 709/222; 370/351, 700/2, 709/237, 709/243, 710/104

#### ABSTRACT:

A network system having a wide variety of applications and particularly applicable to facilities management systems includes network controllers which continuously process data related to building and industrial, environmental, security and other automated system controls. Each network controller has a network address indicative of a communication link to which the network controller is connected, a local address and a node drop ID to determine whether the network controller is a configured or non-configured device. Data stored in an archive device is downloaded to a destination network controller in the absence of a routing table in the destination network controller by transmitting a download request message from the archive device to an intermediate network controller with a routing table. The intermediate network controller assumes control of the download request by transmitting the message to the destination controller. The destination controller acknowledges receipt of the message by transmitting an acknowledge message back to the intermediate network controller, which passes the acknowledge message to the archive device in accordance with the routing information stored in the intermediate network controller. Thus, as certain network controllers are connected, disconnected or disabled during the operation of the network, the control of a process is not interrupted. Additionally, the network controllers are not configured to store large amounts of routing data because a path to a device can be established through other controllers with routing information.

7 Claims, 86 Drawing figures  
Exemplary Claim Number: 1  
Number of Drawing Sheets: 83

Full	Title	Citation	Front	Review	Classification	Date	Reference	Claims	Keywords	Drawings
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☐ 48. Document ID: US 5408659 A

L3: Entry 48 of 50

File: USPT

Apr 18, 1995

US-PAT-NO: 5408659

DOCUMENT-IDENTIFIER: US 5408659 A

TITLE: Link pane class and application framework

DATE-ISSUED: April 18, 1995

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Cavendish; Catherine J.	Dallas	TX		
Baber; Ronald L.	Bedford	TX		

US-CL-CURRENT: 717/107; 345/804, 345/835, 345/839, 345/854, 717/109

ABSTRACT:

For use in a personal computer provided with at least two independent applications made available to a user at a graphic user interface, a desktop located icon, one or more, is shown so that the user may easily implement the link into one or the other of the available applications. The icon is implemented by a click and drag manipulation. This provides a link to application independent material, e.g., audio or visual relational database material. The applications can be enhanced selectively by the user through the graphic user interface.

10 Claims, 6 Drawing figures

Exemplary Claim Number: 1

Number of Drawing Sheets: 3

Full	Title	Citation	Front	Review	Classification	Date	Reference			Claims	KWIC	Draw D
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☐ 49. Document ID: US 5384697 A

L3: Entry 49 of 50

File: USPT

Jan 24, 1995

US-PAT-NO: 5384697

DOCUMENT-IDENTIFIER: US 5384697 A

TITLE: Networked facilities management system with balanced differential analog control outputs

DATE-ISSUED: January 24, 1995

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Pascucci; Gregory A.	Waukesha	WI		

US-CL-CURRENT: 700/10

ABSTRACT:

A networked system having a wide variety of applications and particularly applicable to facilities management systems has multiple levels of software in processing nodes. The levels include a "features" processing level which communicates requests for data to a software object level containing databases of processes and attributes and database managers. The database managers in the

software object level operate to provide data to the high level features in the same format. The software object level communicates with a hardware object level which also contains databases and database managers to mask differences between operational hardware units. By categorizing operational units by type, additional units of a known type can be added with only low level hardware object database changes. Adding units of a new type is facilitated by software changes confined to the lower level hardware and software objects, avoiding software changes at high level features. Individual software objects are tailored for typical types of inputs and output devices encountered by facilities management systems. Universal drive circuitry also provides applicability to a broad range of devices. The sum of an analog input signal and a feedback signal is provided to a buffer circuit. A current sensing network connected to the output of the buffer forms a first control signal. An equal amplitude, oppositely polarized signal forms a second control signal. An external signal switches the feedback network to produce a voltage derived from a current output of the first control signal and a voltage output of the first control signal.

22 Claims, 86 Drawing figures  
Exemplary Claim Number: 1  
Number of Drawing Sheets: 83

Full	Title	Citation	Front	Review	Classification	Date	Reference	Abstract	Claims	NAME	Drawn
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☐ 50. Document ID: US 5369570 A

L3: Entry 50 of 50

File: USPT

Nov 29, 1994

US-PAT-NO: 5369570

DOCUMENT-IDENTIFIER: US 5369570 A

TITLE: Method and system for continuous integrated resource management

DATE-ISSUED: November 29, 1994

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Parad; Harvey A.	Newton	MA	02167	

US-CL-CURRENT: 705/8; 700/99, 709/226, 709/229, 709/244

ABSTRACT:

A method for continuous real-time management of heterogeneous interdependent resources is described. The method preferably comprises using multiple distributed resource engines to maintain timely and precise schedules, and action controls, and identifying and responding to rapidly changing conditions in accord with predetermined requirements, relationships, and constraints. Each resource engine continuously adjusts schedules in response to changing status, resource requirements, relationships and constraints. Each action control maintains an ordered list of conditions requiring action, determines the best action in each case, and generates appropriate responses. Preferably methods for continuous operation include inquiring about status concurrent with scheduling activity and recognizing the effects of time passage on the condition of schedules.



12 Claims, 27 Drawing figures  
Exemplary Claim Number: 1  
Number of Drawing Sheets: 24

Full	Title	Citation	Front	Review	Classification	Date	Reference	Examiner	Supervisor	Claims	KWIC	Drawing
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